AMENDMENTS TO THE CLAIMS

Claims 1-2 (Cancelled)

3. (Previously Amended) The valve of claim 4, further comprising a connector, said connector fluidly communicating said check valve with said gas outlet.

4. (Currently Amended) A gas assist mold dump valve positioned between a gas controller and a mold cavity, said valve comprising:

a regulator body having a inlet in fluid communication with a gas controller, an outlet in fluid communication with a mold cavity, a vent and a piston mounted for reciprocal movement between a first position wherein said vent is closed and a second position wherein said vent is open~~, said piston being balanced such that it has a close to one to one dome to seat ratio~~; and

a check valve disposed between and in fluid communication with said inlet and said outlet of said regulator body, said check valve having a valve head and an internal spring, said valve head being moveable between ~~having~~ an open position that permits a fluid to flow from said inlet to said outlet and a closed position that prohibits the flow of a fluid from said outlet to said inlet.

5. (Currently Amended) A valve control apparatus comprising in combination:

a gas controller;

a mold cavity;

a regulator body having a inlet in fluid communication with a gas controller, an outlet in fluid communication with ~~a~~ said mold cavity, a vent for exhausting gas from said mold

cavity and a ~~balanced~~ piston movable to a first position wherein said vent is closed and a second position; ~~wherein said vent is at least partially open.~~

a check valve disposed between and in fluid communication with said gas inlet said gas outlet of said regulator body, said check valve having a valve head and an internal spring, said valve head being moveable between an open position that permits a fluid to flow from said inlet to said outlet and a closed position that prohibits the flow of a fluid from said outlet to said inlet, said internal spring biasing said valve head into said closed position.

6. (Currently Amended) A method for controlling a valve comprising the steps of:

providing a gas controller;

providing a mold cavity;

providing a regulator body having an inlet in fluid communication with said gas controller, an outlet in fluid communication with said mold cavity, a vent for exhausting gas from said mold cavity and a piston mounted for reciprocal movement between a first position wherein said vent is closed and a second position wherein said vent is open;

providing a check valve disposed between and in fluid communication with said inlet and said outlet of said regulator body, said check valve having a valve head and an internal spring, said valve head being biased in a closed position by said spring and having an open position that permits a fluid to flow from said inlet to said outlet;

supplying a fluid from said gas controller at a first pressure to said gas inlet, said first pressure being sufficient to place said check valve in said open position such that fluid is communicated to said outlet and said mold cavity and to move said piston to said first position;

venting a fluid from said gas controller at a second pressure ~~that is lower than said first pressure to said gas inlet~~ such that said check valve is placed in said closed position and said fluid in said mold cavity at said first pressure operates to move said piston toward said second position to open said vent and exhaust said fluid from said mold cavity.

Claims 7 and 8 (Cancelled)

9. (New) A gas assist mold dump valve positioned between a gas controller and a mold cavity comprising:

a pressure regulator, said regulator including a body, a vent and a piston, said body having a gas inlet in fluid communication with a gas controller and a gas outlet in fluid communication with a mold cavity, said vent being formed in said body between said gas inlet and said gas outlet and said piston being slidably mounted for reciprocal motion within said body between a first position to close said vent and a second position to open said vent;

a check valve in fluid communication with said inlet and said outlet, said check valve having a valve head and an internal spring, said valve head being moveable between an open and a closed position and said internal spring biasing said valve head into said closed position, said open position of said valve head allowing gas to flow from the inlet to the outlet; and

a connector fluidly communicating said check valve with said gas outlet

whereby the pressure of gas entering the inlet operates to urge said piston toward a first position and place said valve head into the open position so that the gas passes through the check valve into the outlet and enters said mold cavity and gas exiting the mold cavity operates to urge the piston toward said second position to open the vent and expel the gas.